The opinion in support of the decision being entered today was <u>not</u> written for publication in a law journal and is <u>not</u> binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES
_____

<u>Ex parte</u> JUNG-TAE KIM
_____

Appeal No. 1998-2513
Application No. 08/171,427
_____

HEARD: JANUARY 10, 2001
_____

Before JERRY SMITH, LALL, and BLANKENSHIP, <u>Administrative Patent Judges</u>.

BLANKENSHIP, <u>Administrative Patent Judge</u>.

<u>DECISION ON APPEAL</u>

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final

rejection of claims 1-3 and 5-15.

We affirm-in-part.

BACKGROUND

The invention is directed to a tracking control method and apparatus which uses

tracking error signals for controlling capstan speed in a magnetic-head video system.

Claim 1 is reproduced below.

1.   A tracking control method for an image recorder/reproducer which converts an applied tracking error into a degree of capstan speed control and generates a driving signal for a capstan motor, wherein said tracking control method comprises the steps of:
        calculating a degree of tracking control responsive to said tracking error by performing a predetermined gain control operation and by converting said tracking error into said degree of tracking control;
        generating a variable capstan speed instruction in accordance with said calculated degree of tracking control;
        determining a speed error by comparing said capstan speed instruction and an actual rotation speed of capstan motor; and
        calculating a degree of speed control by performing a predetermined gain control on said speed error and by calculating said degree of speed control used in controlling said capstan motor wherein said tracking error is reflected.

The examiner relies on the following evidence:

Takeda   2-98856   Apr. 11, 1990
   (published Japanese Kokai Patent Application)[1]

Appellant's admitted prior art (the APA).

Claims 1-3 and 5-15 stand rejected under 35 U.S.C. § 103 as being unpatentable

over the APA and Takeda. Claims 4 and 16 have been withdrawn from consideration.

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[1] With English translation provided by the USPTO translation branch, dated Feb. 1995.

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We refer to the Final Rejection (Paper No. 21) and the Examiner's Answer (Paper No. 28) for a statement of the examiner's position and to the Brief (Paper No. 27) for appellant's position with respect to the claims which stand rejected.[2]

OPINION

Grouping of Claims

Claims 1, 5, and 12 are independent. Appellant submits separate arguments for each of claims 1 and 5, separate arguments for claims 10-13 and 15 as a group, and separate arguments for claims 9 and 14 as a group. Appellant also provides additional arguments for independent claims 1, 5, and 12 as a group. We consider each of the arguments in turn. See 37 CFR § 1.192(c)(7).

Claim 1 (independent)

In the statement of the rejection, the examiner refers to prior art Figure 3 of appellant's specification. The APA "does not use a feedback loop with the measured speed." (Final Rejection, page 3.) "In contrast, Takeda. [sic] adds the measured speed to the target error in order to derive an improved value for both error figures." (Id.) However,

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[2] In making our determinations we have not considered a Reply Brief, filed September 24, 1997 (Paper No. 30), which was refused entry by the examiner.

the independent claims (1, 5, and 12) do not contain the language "the measured speed."

Appellant's Figure 3, as described at page 3, line 11 through page 4, line 18 of the instant specification, discloses a capstan servo system which compares the actual speed of capstan motor 27 with a reference value. The error calculated by speed error detector 21 is changed into a degree of speed control by speed controller 22. The speed control signal is output to adder 25, and ultimately to motor driver 26. There is thus a feedback loop which utilizes the measured speed of motor 27.

Another feedback loop operates on capstan tracking error by means of phase comparison between a control pulse reproduced by fixed head 28 and the head switching pulse. The degree of tracking error is further processed by capstan phase controller 24, with the degree of capstan tracking control being output to adder 25. The input to motor driver 26 is thus the summation of the signals from the speed control and the tracking control.

Takeda discloses in Figure 1, and describes principally at page 13, line 3 through the last line of page 15 of the English translation, a servo circuit which includes a "tracking error generating part" 200a. A tracking error signal is output by "sample hold" circuit 19, which is relayed to "addition amplifier" 1 through amplifier 20 and low-pass filter 21. Control circuit 24 uses input from the tracking error signal at "sample hold" circuit 19, and outputs a signal to "reference voltage generation circuit" 7b, which in turn outputs a signal

to "addition amplifier" 1. An independent speed control signal is produced by means of

circuitry at elements 4, 5, and 6, with the output being directed to "addition amplifier" 1.

The output of "addition amplifier" 1 is supplied to motor driver 2, which drives capstan

motor 3.

Takeda teaches that the "reference voltage generation circuit" 7b is an

improvement over simple reference voltage 7 (Figure 3), which sets the reference for

rotational frequency. See Takeda, page 7, second paragraph of the English translation.

Although in voltage form, the rotational frequency reference is analogous to the capstan

speed instruction "(f)" which is input to speed error detector 21 in appellant's prior art

Figure 3, as described in the instant specification.

> [T]he capstan speed instruction (f), which corresponds to the regular
> spinning speed of the capstan motor and which is needed when [the] head
> correctly runs [above the] normal track, is the reference value. Also, the
> reference value and the actual speed of a capstan motor 27, as measured
> by a frequency generator 29 when capstan motor 27 spins, are compared in
> a capstan speed error detector 21.

Specification (Paper No. 1), page 3, lines 14-20.

According to appellant's assessment of Takeda, "tracking and speed control are

supplied independently via an adder 1 to capstan motor 3." (Brief, page 8.) "Therefore,

Takeda suffers from the same deficiencies of the conventional methods...." (Id.)

The examiner explains, on page 6 of the Answer, that the claimed subject matter

was suggested because the combination of the APA and Takeda would not produce

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separate loops. Rather than the capstan speed instruction based on tracking error being input to adder 25 of prior art Figure 3, the examiner contends that the signal would be input to speed error detector 21.

We agree with the examiner's finding that the combined teachings of the APA and Takeda would have suggested providing a capstan speed instruction, based on tracking error, as input to speed error detector 21. The purpose would have been to increase tracking accuracy of the prior art system as shown in appellant's Figure 3 by using the tracking error to help compensate for errors in speed. Takeda in particular at page 13, first full paragraph of the English translation teaches using a processed signal, derived from the tracking error signal, for determining the rotation speed of a capstan motor. We do not find the teaching to be limited to the environment disclosed; that is, not limited to circuitry in which a voltage signal from reference voltage generation circuit 7b is input to "addition amplifier" 1. A reference is properly evaluated for reasonable inferences which one skilled in the art would draw therefrom, and not just for its specific, express teachings. In re Shepard, 319 F.2d 194, 197, 138 USPQ 148, 150 (CCPA 1963). Moreover, one of ordinary skill in the art must be presumed to know something about the art apart from what the reference discloses. In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962).

In the context of the system of appellant's prior art Figure 3, it is not clear that simply adding another speed signal to summer 25 would be desirable, or would even result in an

operative device. However, the circuitry of Figure 3 uses a capstan speed instruction as input to error detector 21. The evidence suggests that whatever intermediate processing that may be necessary would not have required anything beyond routine skill in the art. (For example, Takeda discloses changing the form of a signal -- from frequency to voltage -- by means of element 5 in Figure 1.) Appellant has not shown the rejection of claim 1 to be in error.

Claim 5 (independent)

We are unpersuaded by appellant's arguments in support of claim 5. Supplying the speed instruction from tracking error to speed error detector 21 (instant Figure 3) would do that which is alleged to be missing: that the "speed controller produces a degree of speed control by comparing the variable speed instruction output from the tracking controller with the actual capstan speed." (Brief, page 9.) Since we agree with the examiner's finding that the combined teachings would have suggested supplying a speed instruction, derived from tracking error, to speed error detector 21 as shown in prior art Figure 3, we disagree that the argued limitation is missing from the teachings of the prior art.

Claims 10-13 and 15 (claim 12 independent)

Appellant's arguments in support of claims 10-13 are based on an implied allegation with which we disagree. We agree that in Takeda "the output of the control

circuit is supplied to an adder circuit 1." (Brief, page 11.) However, we disagree that

supplying the signal to an adder circuit is the full extent of the teaching. As we have noted

previously herein, we do not find the teachings of Takeda to be limited to those circuit

components which are explicitly disclosed. Moreover, nonobviousness cannot be

established by attacking references individually where the rejection is based upon the

teachings of a combination of references. In re Merck & Co., 800 F.2d 1091, 1097, 231

USPQ 375, 380 (Fed. Cir. 1986) (citing In re Keller, 642 F.2d 413, 425, 208 USPQ 871,

881 (CCPA 1981)).

Claims 1, 5, and 12 (each independent)

We disagree with appellant's contention, alleged in the Brief at pages 11 and 12,

that the rejection is based on impermissible hindsight. Taneka teaches improving servo

control of a capstan motor by deriving a speed signal from a tracking error signal. This

basis for the suggested modifications to appellant's prior art Figure 3 arises from the prior

art; not gleaned only from knowledge of appellant's disclosed improvements. We

therefore are unpersuaded that the rejection is flawed by impermissible hindsight.

Claims 9, 14 (dependent)

Appellant argues (Brief, pages 12 and 13) that the evidence relied upon fails to

show obviousness of the subject matter of claims 9 and 14, which require that the capstan

speed instruction generator is a voltage controlled oscillator. We agree that the

evidentiary basis for the rejection of those claims is lacking. The allocation of burdens

requires that the USPTO produce the factual basis for its rejection of an application under

35 U.S.C. § § 102 and 103. In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788

(Fed. Cir. 1984) (citing In re Warner, 379 F.2d 1011, 1016, 154 USPQ 173, 177 (CCPA

1967)). The one who bears the initial burden of presenting a prima facie case of

unpatentability is the examiner. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443,

1444 (Fed. Cir. 1992).

The statement of the rejection (Answer, page 4, final paragraph) appears to be

based on appellant's own teachings in the specification. The examiner's further

commentary (Answer, page 7) does not refer to any evidence in the record. Alleging that

voltage controlled oscillators were "notoriously well known in the art" does not speak to the

subject matter as a whole of claims 9 and 14.

Taneka discloses in Figure 5, element 5, an "F/V" (frequency to voltage) converter.

We may conclude that the reverse operation -- voltage to frequency conversion -- was

routine in the art. However, as appellant points out, there are no teachings in the evidence

upon which the rejection is based to establish that a voltage controlled oscillator was the

particular hardware suggested as the capstan speed instruction generator. Since a prima

facie case of obviousness has not been established for those claims, we do not sustain

the rejection of claims 9 and 14.

CONCLUSION

Appellant has shown the rejection of dependent claims 9 and 14 to be erroneous, but has not shown reversible error in the rejection of claims 1-3, 5-8, 10-13, or 15. Accordingly, the rejection of claims 1-3, 5-8, 10-13, and 15 is affirmed, but the rejection of claims 9 and 14 is reversed. The examiner's decision in rejecting claims 1-3 and 5-15 is thus affirmed-in-part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

JERRY SMITH	)
Administrative Patent Judge	)
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	) BOARD OF PATENT
PARSHOTAM S. LALL	) APPEALS
Administrative Patent Judge	) AND
	) INTERFERENCES
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HOWARD B. BLANKENSHIP	)
Administrative Patent Judge	)

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